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09/887,993	06/25/2001	Roy Alan Visser	DP-304278	8098

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EXAMINER

CIRIC, LJILJANA V

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 07/21/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/887,993

Applicant(s)

Visser

Examiner

Ljiljana V. Ciric

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Nov 27, 2002 and Dec 9, 2002

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above, claim(s) 6, 7, 10-12, and 20 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-5, 8, 9, and 13-19 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on Jun 25, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

4) ☐ Interview Summary (PTO-413) Paper No(s). _____

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of the first species or the embodiment of Figures 1 through 3, in Papers No. 3 and 5 is acknowledged. The traversal is on the ground(s) that (a) MPEP Section 816 requires that "the particular reasons relied upon by the examiner for holding that the inventions as claimed are either independent or distinct should be concisely stated" but that the examiner has failed to do so, and (b) that "each of the claims is sufficiently related to one another to oppose restriction".

The former grounds for traversal are not found persuasive because the quoted section of the MPEP refers to restriction requirements, such as those between a combination and a subcombination, or between a method and an apparatus, whereas the examiner merely required an election between various embodiments or species as already identified by the applicant in the originally filed disclosure.

The latter grounds for traversal are not found persuasive, because, as indicated by the examiner in the election requirement imposed by the examiner, Paper No. 2, a proper traversal by applicant on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants of each other or clearly admit on the record that this is the case. In the instant traversals, it is respectfully submitted that applicant has failed to do so.

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The requirement is still deemed proper and is therefore made FINAL.

2. Whereas the applicant notes that claims 1 through 5, 8, 9, 13 through 17, and 19 are readable on the elected first species or the embodiment corresponding to Figures 1 through 3, the examiner hereby notes that claim 18 is also readable on the elected species and is thus being examined herewith.

3. Claims 6, 7, 11, 12, and 20 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to non-elected species or inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Papers No. 3 and 5.

Specification

4. The abstract of the disclosure is objected to because (a) whereas the instant invention is drawn to both an apparatus and a method, the abstract only refers to a method in the introductory sentence; (b) it does not avoid using the form and legal phraseology used in patent claims (i.e., “consists of”); and, (c) the statement following “which allows” in the last sentence is not clearly stated and thus is not readily understood. Correction is required. See MPEP § 608.01(b).

Claim Objections

5. Claims 16 through 19 are objected to because of the following informalities: “the step distorting” [claim 16, lines 4-5] should be replaced with “the step of distorting”. Appropriate correction is required.

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Claim Rejections - 35 U.S.C. § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2 Claims 1 through 5, 8, 9, and 13 through 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For example, with regard to the claims as written, the claims recite “a first structure” and “a first component” on numerous occasions, which would lead one to believe that at least “a second structure” and “a second component” follow, but there are no recitations of either. If there is indeed no second structure and no second component, recommend deleting the recitation of “first” in association with either of these terms for improved clarity.

Claim 1 refers to “a hollow circular inner portion”, but this is not clear what portion is circular and hollow. If the aforementioned limitations are used to describe the hollow interior of the hollow tubing, then these should be replaced with a recitation of “a hollow cylindrical inner portion” to more clearly delineate applicant’s invention.

The limitation “said vehicle component” as recited in claim 13 lacks proper antecedent basis if the first component selected from the group consisting of a vehicle component and a system component in base claim 8 from which claim 13 depends is a system component and not a vehicle component. This discrepancy renders claim 13 indefinite with regard to the intended scope of protection sought.

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Method base claim 15 as written recites the subject of the invention as being “A method for improving the *cooling* capabilities of a liquid cooler” in the preamble of the claim, then goes on to recite a single step of “*decreasing the temperature rise* along an outer surface of a hollow tubing *resulting from the laminar flow of a liquid through said hollow tubing*” or of decreasing heating along an outer surface without referring to any cooling whatsoever. This discrepancy between the scope of the preamble of the method claim and the scope of the limitations in the body of the base claim renders indefinite claim 15 and all claims depending therefrom with regard to the scope of protection sought.

The aforementioned step of decreasing as recited in the body of the claim is also not clear because it does not clearly correlate the hollow tubing to either the liquid cooler or to the vehicle or system component as recited in the preamble of the claim, and also because it appears to state that the temperature rise along the outer surface of the hollow tubing results from the laminar flow of the liquid passing therethrough, the latter appearing to be inconsistent with what the applicant’s invention encompasses.

Claim Rejections - 35 U.S.C. § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

NOTE: The above reflects changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002.

8. As best can be understood in view of the indefiniteness of the claims, claims 1, 8, and 15 through 18 are rejected under 35 U.S.C. 102(b) as being anticipated by *Newton*.

Newton discloses the invention essentially as claimed, including: a liquid cooler or condenser 10 including hollow tubing or tubes 12, where the tubes 12 in turn each have an outer wall and a "circular", i.e., "cylindrical", inner wall portion corresponding thereto and a first structure or guide means 30 contained within a central portion of the hollow tubing or tubes 12 [especially see Figures 2 and 7]. *Newton* also discloses the liquid cooler or condenser 10 as being coupled to a variety of other system components [see Figure 1].

The reference thus reads on the claims.

9. Alternately for claim 1 and as best can be understood in view of the indefiniteness of the claims, claims 1 through 5 are rejected under 35 U.S.C. 102(b) as being anticipated by *Midland Wire Cordage Company Limited*.

Midland Wire Cordage Company Limited discloses the invention essentially as claimed, including: a liquid cooler or heat exchanger including at least one hollow tube, where the at least

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one hollow tube in turn each have an outer wall and a “circular”, i.e., “cylindrical”, inner wall portion corresponding thereto and a first structure or wire turbulator contained within a central portion of the at least one hollow tube, with the wire turbulator including “straight wire regions” of equal length interposed between adjacent “kink regions” having a “lobe region” abutting the “circular” inner wall portion of the at least one tube. Especially see Figure 2, for example.

The reference thus reads on the claims.

10. Alternately for claims 1, 8, and 15 through 18 and as best can be understood in view of the indefiniteness of the claims, claims 1, 2, 8, 9, and 14 through 19 are rejected under 35 U.S.C. 102(e) as being anticipated by *Yu et al.* (filed August 5, 1998).

Yu et al. discloses the invention essentially as claimed, including: a liquid cooler or condenser 10 including hollow tubes 12, where the tubes 12 in turn each have an outer wall and a “circular”, i.e., “cylindrical”, inner wall portion corresponding thereto and a first structure or wire turbulator 30 contained within a central portion of the hollow tubes 12, with the wire turbulator 30 including “straight wire regions” (as broadly interpreted) interposed between adjacent “kink regions” having a “lobe region” abutting the “circular” inner wall portion of the tubes 12. See Figures 3A, 3B, 4A, 4B, 5A, and 5B.

Yu et al. also discloses the liquid cooler or condenser 10 as being usable in a variety of vehicular, industrial, and environmental environments, including as air-to-oil coolers (i.e., coolers wherein the liquid coolant is motor oil) or condensers. See column 1, lines 12-17.

The reference thus reads on the claims.

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Claim Rejections - 35 U.S.C. § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. As best can be understood in view of the indefiniteness of the claims, claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yu et al.*

As described in greater detail above, *Yu et al.* discloses the invention essentially as claimed, including stating that the wire turbulator 30 is usable in various types of heat exchangers or liquid coolers, such as in condenser 10, in a variety of system applications, including vehicular ones where the heat exchangers or liquid coolers are operably coupled to another vehicular component.

While *Yu et al.* does not necessarily disclose coupling a heat exchanger or liquid cooler including the inventive wire turbulator 30 to a vehicular component which is specifically an electronic control module, Official Notice is hereby taken that it is known in the art of electronics cooling or vehicular cooling to couple refrigerant systems including condensers to various electronic elements, such as electronic control modules.

Thus, it would have been obvious to one skilled in the art at the time of invention to specifically couple the heat exchanger or condenser 10 of *Yu et al.* to a vehicular electronic

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component, such as a vehicular electronic control module, using a vehicular refrigeration system which is part of the vehicular HVAC system and which includes a condenser 10 equipped with wire turbulator 30, in order to cool the electronic component without adding another cooling system and without needing to increase the size of the condenser, for example.

Conclusion

13. The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Findlay, Jarrett et al., and *Behr & Co. GmbH* each discloses turbulators or turbulence-inducing structure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925.

While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett, can be reached on (703) 308-0101. The fax phone number is (703) 305-3463.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

June 30, 2003

A handwritten signature in cursive script, appearing to read 'Ljiljana V. Ciric', is written over the typed name.

LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3743